IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) ~~Method~~ A method for the ~~microbiological~~ production of α-L-aspartyl-L-phenylalanine (Asp-Phe) from the substrates L-aspartic acid (L-Asp) and L-phenylalanine (L-Phe) ~~wherein~~ which comprises (a) contacting the substrates ~~are contacted,~~ in the presence of an effective amount of adenosine-triphosphate (ATP), with a non-ribosomal dipeptide synthetase comprising two minimal modules connected by one condensation domain, wherein the N-terminal module of these minimal modules ~~is recognizing~~ recognizes L-aspartic acid and the C-terminal module of these minimal modules ~~is recognizing~~ recognizes L-phenylalanine and is covalently bound at its N-terminal end to the condensation domain, and wherein each of these minimal modules is composed of an adenylation domain and a thiolation domain containing a 4'-phosphopantetheinyl cofactor ~~containing thiolation domain~~, and ~~that~~ (b) recovering the α-L-aspartyl-L-phenylalanine (Asp-Phe) ~~formed is recovered~~ produced in (a).

2. (Currently amended) Method for the production of Asp-Phe according to claim 1, wherein the condensation domain in the dipeptide synthetase is ~~connected to both minimal modules in such way that it is~~ also covalently bound to the module recognising L-aspartic acid.

3. (Currently amended) Method for the production of Asp-Phe according to claim 1, wherein the non-ribosomal dipeptide synthetase further ~~comprising~~ comprises a ~~thioesterase-like~~ thioesterase releasing factor for the Asp-Phe formed ~~on the dipeptide synthetase~~.

4. (Currently Amended) Method for the production of Asp-Phe according to claim ~~1~~ 3, wherein the ~~thioesterase-like releasing factor forms an integrated domain of~~ condensation domain in the dipeptide synthetase ~~at the C-terminus thereof~~ is covalently bound to the module recognizing L-aspartic acid and wherein the thioesterase releasing factor is covalently bound to the module recognizing L-phenylalanine.

5. (Currently amended) Method for the production of Asp-Phe according to claim 1, wherein a non-integrated protein with thioesterase ~~Type-II-like~~ Type-II activity is further present together with the dipeptide synthetase.

6. (Currently amended) Method for the production of Asp-Phe according to claim 5, wherein the dipeptide synthetase is present in ~~living cell material of a micro-organism~~ a microorganism[[;]], said process further comprising growing said microorganism in a fermentor and feeding glucose, L-Asp, L-Phe, or mixtures thereof ~~are being fed~~ to said fermentor~~; and the Asp-Phe formed is recovered~~.

7. (Currently amended) Method for the production of Asp-Phe according to claim 6, wherein the ~~micro-organism~~ microorganism is first grown in a fermentor to reach a predetermined cell density before the expression of the Asp-Phe dipeptide synthetase is switched on, and wherein ~~feeding of the~~ glucose, L-Asp, L-Phe, or ~~mixtures~~ mixture thereof is added at the same time the expression ~~for the synthesis~~ of the Asp-Phe dipeptide is ~~started~~ switched on.

8. (Currently amended) Method for the production of Asp-Phe according to claim 7, wherein the ~~micro-organism~~ microorganism is an L-phenylalanine producing microorganism ~~micro-organism;~~, and only glucose and L-Asp are ~~being~~ fed.

9. (Currently amended) Method for the production of Asp-Phe according to claim 8, wherein the ~~micro-organism~~ microorganism is an *Escherichia* or *Bacillus* species.

10. (Currently amended) Method for the production of Asp-Phe according to claim 6, wherein the ~~micro-organism~~ microorganism used is a strain having reduced protease activity for Asp-Phe or having no protease activity towards Asp-Phe.

11. (Currently amended) Method for the production of Asp-Phe according to claim 1, wherein the production of Asp-Phe is carried out ~~*in vitro* in an enzyme reactor, while~~ using the dipeptide synthetase in its isolated form in a reactor and simultaneously supplying ~~ATP is supplied,~~ L-Asp, L-Phe, or ~~mixtures~~ a mixture thereof and ATP to the reactor ~~is being fed, and the Asp-Phe formed is recovered~~.

12. (Previously presented) Method for the production of Asp-Phe according to claim 11, wherein the supply of ATP is provided in part by an in situ ATP-regenerating system.

13. (Currently amended) Method for the production of Asp-Phe according to claim 12, wherein the ATP-regenerating system is present in a permeabilised ~~micro-organism~~ microorganism.

14. (Withdrawn and currently amended) A DNA fragment or a combination of DNA fragments coding for a non-ribosomal Asp-Phe dipeptide synthetase, said synthetase ~~comprises~~ comprising two minimal modules connected by one condensation domain, wherein the N-terminal module of these minimal modules ~~is recognising~~ recognizes L-aspartic acid, and the C-terminal module of these minimal modules ~~is recognising~~ recognizes L-phenylalanine[[;]] and is covalently bound at its N-terminal end to the condensation domain, and wherein each of said minimal modules is composed of an adenylation domain and a thiolation domain containing a 4'-phosphopantetheinyl cofactor ~~containing thiolation domain~~.

15. (Withdrawn and currently amended) A DNA fragment coding for an Asp-Phe dipeptide synthetase according to claim 14, wherein the condensation domain in the encoded dipeptide synthetase is ~~connected to both minimal modules in such way that it is~~ also covalently bound to the module recognising L-aspartic acid.

16. (Withdrawn and currently amended) A DNA fragment or a combination of DNA fragments according to claim 14, wherein the DNA fragment or the combination of DNA fragments encoding the dipeptide synthetase also code for a thioesterase releasing factor for the Asp-Phe formed on that dipeptide synthetase.

17. (Withdrawn and currently amended) A DNA fragment ~~or a combination of DNA fragments~~ according to claim 16, wherein the ~~thioesterase-like releasing factor forms an integrated domain of~~ condensation domain in the dipeptide synthetase ~~at the C-terminus thereof~~ is covalently bound to the module recognizing L-aspartic acid and wherein the thioesterase releasing factor is covalently bound to the module recognizing L-phenylalanine.

18. (Withdrawn and currently amended) A DNA fragment or a combination of DNA fragments according to claim 14, wherein said DNA fragment or a combination of DNA fragments also code for a non-integrated protein with thioesterase ~~Type-II-like~~ Type-II activity.

19. (Withdrawn and currently amended) A recombinant ~~micro-organism~~ microorganism containing a DNA fragment or a combination of DNA fragments according to claim 14.

20. (Withdrawn and currently amended) A ~~micro-organism~~ microorganism according to claim 19, wherein the ~~micro-organism~~ microorganism is capable of producing L-Asp, L-Phe, or ~~mixtures~~ a mixture thereof.

21. (Withdrawn and currently amended) A micro-organism according to claim ~~25~~ 20, wherein the micro-organism is an *Escherichia coli* or *Bacillus* species.

22. (Withdrawn and currently amended) Non-ribosomal Asp-Phe dipeptide synthetase comprising two minimal modules connected by one condensation domain, wherein the N-terminal module of these minimal modules ~~is recognising~~ recognizes L-aspartic acid and the C-terminal module of these minimal modules ~~is recognising~~ recognizes L-phenylalanine and is covalently bound at its N-terminal end to the condensation domain, and wherein each of these minimal modules is composed of an adenylation domain and a thiolation domain containing a 4'-phosphopantetheinyl cofactor ~~containing thiolation domain~~.

23. (Withdrawn and currently amended) Non-ribosomal Asp-Phe dipeptide synthetase according to claim 22, wherein the condensation domain in the dipeptide synthetase is ~~connected to both minimal modules in such way that it is~~ also covalently bound to the module ~~recognising~~ recognizing L-aspartic acid.

24. (Withdrawn and currently amended) Non-ribosomal Asp-Phe dipeptide synthetase according to claim 22, wherein the dipeptide synthetase also comprises a releasing factor for the Asp-Phe formed on that dipeptide synthetase.

25. (Withdrawn and currently amended) Non-ribosomal Asp-Phe dipeptide synthetase according to claim 24, wherein the condensation domain in the dipeptide synthetase is covalently bound to the module recognizing L-aspartic acid and wherein the releasing factor is ~~a protein which shows thioesterase-like functions~~ covalently bound to the module recognizing L-phenylalanine ~~and forms an integrated domain of the dipeptide synthetase at its C-terminus~~.

26. (New) A method for the production of α-L-aspartyl-L-phenylalanine (Asp-Phe) from the substrates L-aspartic acid (L-Asp) and L-phenylalanine (L-Phe) which comprises (a) contacting the substrates, in the presence of an effective amount of adenosine-triphosphate (ATP), with a non-ribosomal dipeptide synthetase comprising two minimal modules, one minimal module being encoded by DNA comprising part of the *srf*B gene from *B. subtilis* ATCC 21332 recognizing L-aspartic acid and the second minimal module being encoded by DNA comprising part of the *tyc*A gene from *B. brevis* ATCC 8185 recognizing L-phenylalanine, the two minimal modules being connected by one condensation domain, wherein the N-terminal module of these minimal modules recognizes L-aspartic acid and the C-terminal module of these minimal modules recognizes L-phenylalanine and is covalently bound at its N-terminal end to the condensation domain, and wherein each of these minimal modules is composed of an adenylation domain and a thiolation domain containing a 4'-phosphopantetheinyl cofactor, and (b) recovering the α-L-aspartyl-L-phenylalanine (Asp-Phe) produced in (a).